U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210

Exhibit L

Reply to the Attention of:

May 12, 1981

Dr. John Higginson
Director
International Agency for Research
on Cancer
150 Cours Albert Thomas
69008 Lyon
FRANCE

Dear Dr. Higginson:

It is my understanding from Dr. Han Kang, who attended the recent IARC working group meeting (February 10-17), that formaldehyde received a categorization of limited evidence in animals on the basis of the 18-month results of the CIIT study (Cancer Research, 40:3398-3401). This study demonstrates the induction of squamous cell carcinoma of the nasal turbinates (a rare tumor type) in Fisher 344 rats. In support of the carcinogenicity data are multiple positive mutagenicity test results on formaldehyde. Therefore, the IARC evaluation seems curious in light of IARC's classification scheme "Sufficient evidence ... (c) unusual degree with regard to incidence, site or type of tumor, or age at onset. Additional evidence may be provided by data concerning dose-response effects, as well as information on mutagenicity or chemical structure" (IARC Monographs Supplement #1, September 1979).

Thus, according to IARC criteria there appears to have been sufficient experimental evidence at the time of the working group meeting to regard formaldehyde as being carcinogenic in animals. It would seem that the working group must not have been familiar with the IARC criteria for categorization of substances as carcinogens. While I realize that each working group is comprised of a different set of reviewers, they nevertheless must follow IARC criteria when reviewing data on substances for IARC. Evaluation consistent with the above mentioned criteria should have been the responsibility of the working group chairperson.

In addition to the CIIT 18-month study results, the NYU study by Laskin, et al. also demonstrates the induction of squamous cell carcinoma of the nasal cavity in Sprague-Dawley rats exposed to formaldehyde and hydrogen chloride at concentrations of 14.6 ppm and 10.6 ppm, respectively. This latter result seems unlikely to be due to formation of BCME for reasons presented in the attached Current Intelligence Bulletin (CIB) on formaldehyde, i.e., the tumor type and incidence of nasal cancer is not what one would expect from the amount of BCME that may have been formed.

Furthermore, the 24-month CIIT study results now demonstrate a dose-response in nasal cancer in rats (0/240 at 2 ppm; 2/240 at 6 ppm; 93/240 at 15 ppm), and the induction of squamous cell carcinoma of the nasal turbinates in a second species--the mouse. These more recent results are indicated in the attached CIB which is a U.S. Department of Health and Human Services publication. A pre-publication copy of the CIB was available to the working group. In the unlikely event that this source cannot be cited as a published reference by IARC, the CIB also will be published in approximately one to three months in the Am. Ind. Hygiene Assoc. J. by Blackwell, M. et al.

I feel it is in the best interest of the scientific, public health and industrial health community that IARC reconsider its evaluation to be consistent with the IARC criteria. I would hope that you give full consideration to this request in light of the magnitude of occupational and environmental exposure to this substance. Perhaps you could mail to all working group members a copy of the IARC criteria for evaluating carcinogenicity information along with a copy of the final CIB asking that the evaluation of "limited" evidence be reconsidered.

I look forward to your reply.

Sincerely,

Peter F. Infante, D.D.S., Dr.P.H.
Director
Office of Carcinogen Identification
and Classification

cc: R. Griesemer, Oak Ridge National Lab
H. Kraybill, NCI
D. Rall, NIEHS
U. Saffiotti, NCI
L. Tomatis, IARC

Enclosure: CIB on Formaldehyde

PFI/tn